

Date: Wednesday, 2/1/2006 11:37:11 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : STEP INSTALLATION LH (FOLDING)
Job Number : 25704	
Estimate Number : 11404	
P.O. Number : N/A	Part Number : D412630013
This Issue : 2/1/2006 S.O. No. : N/A	Drawing Number : D2801 REV A1
Prsht Rev. : NC	Project Number : N/A
First Issue : N/A Type : LARGE FAB ASSY	Drawing Revision : A1
Previous Run : 25219	Material : N/A
Written By : <u>SEE COMMENT BELOW</u>	Due Date : 3/10/2006 Qty: 2 Um: Each
Checked & Approved By : <u>HA 06.02.01</u>	
Comment : Est Rev:E 04.05.17 Reformat; Removed AN3-16A KJ/RF	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
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1.0	DC	DOCUMENT CONTROL
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**Comment:** DOCUMENT CONTROL

Photocopy bluefile and create labels as per PPP D412-630-013 CHG004

D4 06-02-15

(2)

2.0	D2622120C	Extrusion
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**Comment:** Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Qty Part # Description Batch:

1 D2622-120C Extrusion 324092

Check Material for any Dents or Defects

P.L. 06-02-13 = 2

3.0	LARGE FAB 1	LARGE FABRICATION RESOURCE 1
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**Comment:** LARGE FABRICATION RESOURCE 1

1-Cut D2622 extrusion to 86.15" long as per Dwg D2801

2-Deburr and bevel ends for welding

P.L. 06-02-13 = 2

4.0	QC5	INSPECT WORK TO CURRENT STEP
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**Comment:** INSPECT WORK TO CURRENT STEP

P.L. 06-02-13

2

5.0	D2734	206 Step Endplate
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**Comment:** Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part Number Description Batch

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Part Number: D412630013

Job Number:



Seq. #:

Machine Or Operation:

Description:

2 D2734

End Cap

320757

P.E. 06.02.13 = 2

6.0

D28021

Arm



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D2802-1

Arm

325708

P.E. 06.02.13 = 2

7.0

LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

1-Weld arms and end caps as per Dwg D2801 & QSI 004. Inspect for foreign objects as per QSI 024.

A/R Aluminum Rod M18838 & M18839

P.E. 06.02.13

2-Grind end cap welds flush as per Dwg D2801

P.E. 06.02.13 = 2

8.0

QC5/9

WELD INSPECTION



Comment: WELD INSPECTION

P.E. 06.02.14 2
06/02/14 2

9.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Chemical Conversion Coat as per QSI 005 4.1

SAN 06.02.14

10.0

POWDER COATING

POWDER COATING



Comment: POWDER COATING

Powder Coat White Gloss (Ref: 4.3.5.1) as per QSI 005 4.3

a.m 06-03-01

11.0

HAND FINISHING1

HAND FINISHING RESOURCE #1



Comment: HAND FINISHING RESOURCE #1

Wing Walk as per Dwg D2801 and QSI 005 4.4

Batch: M100037

FL 06 03 01

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06.02.21	9b	Pick end plate & Debur for welding	FF	06.02.21	2	W		
06.02.21	9c	weld end plate as per dwg D2801 and Q51 004	FF	06.02.21	2			
06.02.21	9d	grind end plate flush as per D2801	FF	06.02.22	2			
06.02.22	9E	inspect work to current STEP 9c 5/9	FF	06.02.22	2	06.02.22 J	G.R.N	
06.02.22	9F	chemical conversion end plate on STEP 9c 5/9	FF	06.02.22	2			
		ADD TO I.P.O. permanent change						

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: Q Date: 06.03.20

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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Job Number:



Seq. #:

Machine Or Operation:

Description :

12.0

QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT/CHEMICAL CONVERSION

13.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Pick Assembly Kit

14.0

D2012107

Clevis



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2012-107

Clevis B25 483

15.0

D2022101

Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D2022-101 Spacer B23 396

16.0

D2652

Bushing



Comment: Qty.: 4.0000 Each(s)/Unit Total: 8.0000 Each(s)

Pick:

Qty Part Number

Description Batch

4 D2652

Bushing B22319

17.0

D2803043

STA 84 Bracket Ass'y LH



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2803-043 Bracket Assembly

B25710

18.0

D2804043

STA 155 Bracket Ass'y LH



Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2804-043 Bracket Assembly

B26163

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
06.02.21	9b	pick end plate & deburr for welding	lt	06.02.21	2			
06.02.21	9c	weld end plate as per dwg. J2801 and B51 004	lt	06.02.21	2			
06.02.21	9d	grind end plate flush as per dwg. J2801	lt	06.02.21	2			

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

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Job Number: 25704

Part Number: D412630013

Job Number:



Seq. #:

Machine Or Operation:

Description :

19.0

D2807

Support Prop



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D2807

Gas Spring

B23915 (2) B24622-1A

20.0

D2808

Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D2808

Bushing

B22862

21.0

D28101

Strut



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 D2810-1

Strut

B25712

22.0

D2813

Washer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 D2813

Washer

B24623

23.0

AN320A

Bolt



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 AN3-20A

Bolt

M15432

24.0

AN3108

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 AN310-8

Nut

M9634

PTU

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Part Number: D412630013

Job Number:



Seq. #:

Machine Or Operation:

Description :

25.0

AN410A

Bolt



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

QPick:

Qty Part Number

Description Batch

1 AN4-10A

Bolt

M18057

26.0

AN816

Bolt



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 AN8-16

Bolt

M18615

27.0

AN960JD10

Washer



Comment: Qty.: 5.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Qty Part Number

Description Batch

5 AN960JD10

Washer

M19521

28.0

AN960JD416

Washer



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 AN960JD416

Washer

M19085

29.0

AN960JD816

1/2" washer, Alum



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick:

Qty Part Number

Description Batch

4 AN960JD816

Washer

M6956

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Drawing Name: STEP INSTALLATION LH (FOLDING)

Job Number: 25704

Part Number: D412630013

Job Number:



Seq. #:

Machine Or Operation:

Description :

30.0

MS21042L3

Nut



Comment: Qty.: 5.0000 Each(s)/Unit Total : 10.0000 Each(s)

Pick:

Qty Part Number

Description Batch

5 MS21042L3

Nut (or -3)

18917

31.0

MS21042L4

Nut



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 MS21042L4

Nut (or -4)

117997

32.0

MS24665285

Cotter Pins



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 MS24665-285

Cotter Pin

42421

33.0

MS24693S280

Screw



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick:

Qty Part Number

Description Batch

2 MS24693-S280

Screw

118699

34.0

AN316A

Bolt



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)

Pick:

Qty Part Number

Description Batch

1 AN3-16A

Bolt

117073

JAB

08503215

2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 25704

Part Number: D412630013

Job Number:



Seq. #: Machine Or Operation: Description :

35.0 SMALL FAB 1 SMALL & MEDIUM FAB RESOURCE 1



Comment: SMALL & MEDIUM FAB RESOURCE 1
Assemble as per Dwg D412-630

SAD 06503516 (2)

36.0 QC5 INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

06-03-16

37.0 PACKAGING 1 PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1
Pick Packing Kit

38.0 D2012107 Clevis



Comment: Qty.: 1.0000 Each(s)/Unit Total : 2.0000 Each(s)
Pick: Packing Kit
Qty Part Number Description Batch
1- D2012-107 Clevis B25483 ✓

39.0 D2022101 Spacer



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)
Pick: Packing Kit
Qty Part Number Description Batch
2 D2022-101 Spacers B23396 ✓

40.0 D28061 Bushing



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)
Pick: Packing Kit
Qty Part Number Description Batch
2 D2806-1 Bushing B24621 ✓

41.0 D28063 Bushing



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)
Pick: Packing Kit
Qty Part Number Description Batch
2 D2806-3 Bushing B25818 ✓

P10

2

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: LD Date: 06/03/20
 QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
06-03-16	35	1x AN3-20A bolt broke during installation of nut on ASS'Y B# <u>M15432</u>	<u>VB</u> <u>06-03-16</u>	No signs of cross threading. replace nut and bolt.	SAD 06-03-16	<u>2</u> 06-03-16	<u>VB</u> <u>06-03-16</u>	<u>2</u> 06-03-16

NOTE: Date & initial all entries

Date: Wednesday, 2/1/2006 11:37:12 AM
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Job Number: 25704

Part Number: D412630013

Job Number:



Seq. #:	Machine Or Operation:	Description :
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42.0	AN46A	Bolt
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

1 AN4-6A Bolt M19278 —

43.0	AN410A	Bolt
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Comment: Qty.: 1.0000 Each(s)/Unit Total: 2.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

1 AN4-10A Bolt M18057 —

44.0	AN415A	Bolt
------	--------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 AN4-15A Bolt M19085 x3

~~AN4-15A~~

M19544x1

\$ 2

45.0	AN515A	Bolt
------	--------	------



Comment: Qty.: 2.0000 Each(s)/Unit Total: 4.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 AN5-15A Bolt M19085 —

~~AN5-15A~~

M19544 —

M18279 —

46.0	AN960JD416	Washer
------	------------	--------



Comment: Qty.: 6.0000 Each(s)/Unit Total: 12.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

6 AN960JD416 Washer M19085 —

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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Job Number: 25704

Part Number: D412630013

Job Number:



Seq. #:

Machine Or Operation:

Description :

47.0

AN960JD516

Washer



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 AN960JD516 Washer M18254 ✓

48.0

MS21042L4

Nut



Comment: Qty.: 4.0000 Each(s)/Unit Total : 8.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

4 MS21042L4 - Nut (or -4) M19099 ✓

49.0

MS21042L5

Nut



Comment: Qty.: 2.0000 Each(s)/Unit Total : 4.0000 Each(s)

Pick: Packing Kit

Qty Part Number Description Batch

2 MS21042L5 Nut (or -5) M19073 ✓

50.0

QC4

INSPECT 100% KITS FOR COMPLETENESS



Comment: INSPECT 100% KITS FOR COMPLETENESS

06/03/17 (2)
06/03/17 (2)

51.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and pack for shipping as per PPP D412-630-013

Location: B

PPP Rev: B

06/03/17 (2)

52.0

DC

DOCUMENT CONTROL



Comment: DOCUMENT CONTROL

Inspection Level 21

06/03/20 (2)
06/03/20

Job Completion



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
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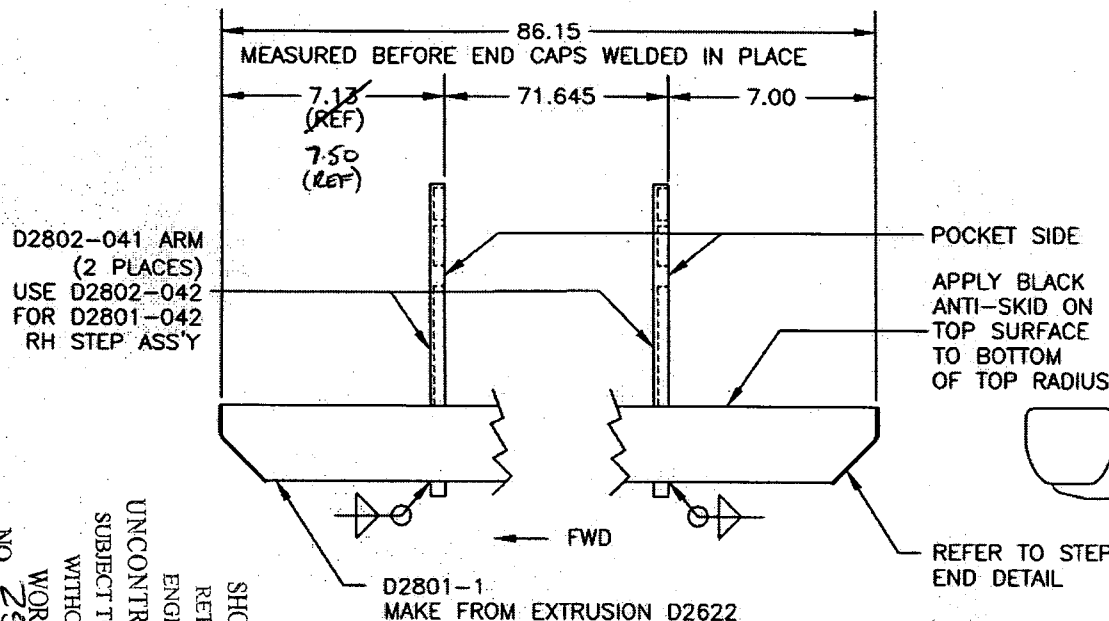
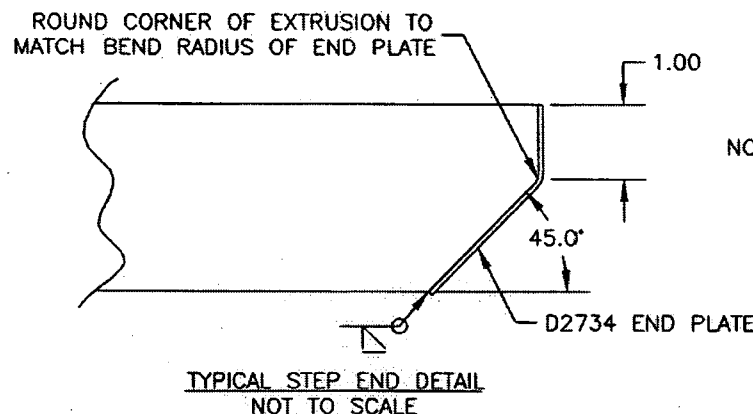
DART



DESIGN	DRAWN BY	DART AEROSPACE LTD HAMKESBURY, ONTARIO, CANADA
CHECKED CP	APPROVED	DRAWING NO. D2801
DATE 00.11.03	TITLE STEP WELDMENT	REV. A SHEET 1 OF 1
A	00.11.03	NEW ISSUE
AI	03.08.15	7.50 WMS 7-13
SCALE N1S		

RELEASED
00.11.13

NOTE: ALL WELDS SHALL BE 100% VISUALLY INSPECTED BY A QUALIFIED INSPECTOR PER DART QSI 004



D2801-041 LH STEP ASSEMBLY (SHOWN)
D2801-042 RH STEP ASSEMBLY (OPPOSITE)

TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
WELD PER DART QSI 004 UNLESS OTHERWISE NOTED
FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
POWDER COAT ENTIRE ASSEMBLY GLOSS WHITE (4.3.5.1) OR GREY SANDTEX (4.3.5.6)
OR BLACK SANDTEX (4.3.5.7) OR GREEN SANDTEX (4.3.5.8) PER DART QSI 005 4.3
BLACK ANTI-SKID PAINT PER DART QSI 005 4.4

SHOP COPY
RETURN TO
ENGINEERING
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SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 25704

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